Amendments In the Claims

Please amend Claims 1, 13, 24 and 30, as follows:

1. **(Currently Amended)** A method for transporting information over a network comprising:

decomposing an input datastream of a plurality of input datastreams into a plurality of sub-streams, wherein

said decomposing comprises placing a portion of the input datastream into one of a plurality of queues,

forming the portion of the input datastream using one or more payload data units (PDUs) each comprising a predetermined amount of data,

forming each PDU by selecting the predetermined amount of data from the input datastream,

appending to ~~**associating with**~~ each PDU a source identifier identifying the source of the input datastream, and

each queue of the plurality of queues corresponds to a corresponding channel of a plurality of channels; and

communicating said sub-streams between a first network element and a second network element of said network by transporting each one of said sub-streams over the corresponding channel, wherein

a transmission rate of said input datastream is greater than a maximum transmission rate of any one of said channels, and

said communicating comprises forming a data frame comprising one or more PDUs and the **appended** ~~**associated**~~ source identifier[[s]] for each PDU and transmitting the data frame over the corresponding channel.

2. (Original) The method of claim 1, wherein

each of said channels is an optical channel.

3. (Original) The method of claim 2, wherein
each of said optical channels corresponds to a wavelength.

4. (Previously Presented) The method of claim 1, wherein
said each one of said sub-streams has a transmission rate that is equal to or less than a maximum transmission rate of a corresponding one of said channels.

5. (Previously Presented) The method of claim 1, further comprising:
assembling said sub-streams into a reconstructed output datastream.

6. (Previously Presented) The method of claim 5, wherein said assembling comprises:
placing a portion of each of said substreams in a queue, wherein said reconstructed output datastream is output by said queue.

7. (Previously Presented) The method of claim 5, further comprising:
performing protocol processing on said input datastream; and
performing protocol processing on said reconstructed output datastream, wherein said protocol processing is performed using a protocol processor comprising a protocol stack.

8. (Previously Presented) The method of claim 1, further comprising:
performing compression on a one of said sub-streams, wherein
said one of said sub-streams has a transmission rate greater than a maximum transmission rate of the corresponding channel.

9. (Original) The method of claim 1, wherein said network is an existing network.

10. (Previously Presented) The method of claim 1, wherein
said network comprises an underlying network infrastructure, and
the method is performed without alteration of said underlying network infrastructure.

11. (Original) The method of claim 10, wherein said network comprises a fiber-optic system.

12. Canceled

13. (**Currently Amended**) A method for receiving information transported over a network comprising:
receiving a plurality of sub-streams, wherein
said sub-streams are created by decomposing an input datastream of a plurality of input datastreams into said sub-streams, wherein
said decomposing comprises placing a portion of the input datastream into one of a plurality of queues,
forming the portion of the input datastream using one or more payload data units (PDUs) each comprising a predetermined amount of data,
forming each PDU by selecting the predetermined amount of data from the input datastream,
appending to ~~**associating with**~~ each PDU a source identifier identifying source of the input datastream, and
each queue of the plurality of queues corresponds to a corresponding channel of a plurality of channels, and
each of said sub-streams is transported over said network on the corresponding channel, wherein
said transporting comprises forming a data frame comprising one or more PDUs and the **appended** ~~**associated**~~ source identifier for each PDU and transmitting the data frame over the corresponding channel, and
a transmission rate of said input datastream is greater than a maximum

transmission rate of any one of said channels; and

assembling said sub-streams into a reconstructed output datastream.

14. (Original) The method of claim 13, wherein each of said channels is an optical channel.

15. (Original) The method of claim 14, wherein each of said optical channels corresponds to a wavelength.

16. (Previously Presented) The method of claim 13, wherein said each one of said sub-streams has a transmission rate that is equal to or less than a maximum transmission rate of said corresponding one of said channels.

17. (Original) The method of claim 13, wherein said assembling comprises:

placing a portion of each of said substreams in a queue, wherein said reconstructed datastream is output by said queue.

18. (Previously Presented) The method of claim 13, further comprising:

decomposing said input datastream into said sub-streams; and

transporting said each of said sub-streams over said network on the corresponding channel.

19. (Previously Presented) The method of claim 13, further comprising:

performing protocol processing on said input datastream; and

performing protocol processing on said reconstructed output datastream, wherein said protocol processing is performed using a protocol processor comprising a protocol stack.

20. (Original) The method of claim 13, wherein said network is an existing network.

21. (Previously Presented) The method of claim 13, wherein
said network comprises an underlying network infrastructure, and
the method is performed without alteration of said underlying network infrastructure.

22. (Original) The method of claim 21, wherein said network comprises a fiber-optic system.

23. Canceled

24. (**Currently Amended**) An apparatus for transporting information over a network comprising:
a first sub-stream management device, comprising
an input configured to receive an input datastream of a plurality of input datastreams, and
a plurality of outputs, wherein
each of said outputs is configured to output one of a plurality of sub-streams, wherein
the input datastream is decomposed to form the plurality of sub-streams, wherein
said decomposing comprises placing a portion of the input datastream into one of the plurality of queues,
forming the portion of the input datastream using one or more payload data units (PDUs) each comprising a predetermined amount of data,
forming each PDU by selecting the predetermined amount of data from the input datastream,
appending to ~~**associating with**~~ each PDU a source identifier identifying the source of the input datastream, and

each of the plurality of queues corresponds to a corresponding channel of a plurality of channels,

each of said sub-streams is transported over said network on the corresponding channel, wherein

said transporting comprises forming a data frame comprising one or more PDUs and the **appended** ~~associated~~ source identifier[[s]] for each PDU and transmitting the data frame over the corresponding channel , and

a transmission rate of said input datastream is greater than a maxiumum transmission rate of any one of said channels.

25. (Original) The apparatus of claim 24, wherein each of said channels is an optical channel.

26. (Previously Presented) The apparatus of claim 25, wherein each of said optical channels corresponds to a wavelength.

27. (Previously Presented) The apparatus of claim 24, wherein said each one of said sub-streams has a transmission rate that is equal to or less than a maximum transmission rate of said corresponding one of said channels.

28. (Previously Presented) The apparatus of claim 24, further comprising a second sub-stream management device, comprising

an output configured to output a reconstructed output datastream, and

a plurality of inputs, wherein

each of said inputs is configured to receive one of said sub-streams; and

an underlying network infrastructure, communicatively coupled to said first and said second sub-stream management devices, and comprising said channels.

29. (Previously Presented) The apparatus of claim 28, further comprising

a first protocol processor, coupled to said input;

a second protocol processor, coupled to said output; and

wherein,

the first and second protocol processors each comprise a protocol stack.

30. (**Currently Amended**) An apparatus for transporting information over a network comprising:

a first sub-stream management device, comprising

an output configured to output a reconstructed output datastream, and

a plurality of inputs, wherein

each of said inputs is configured to receive one of a plurality of sub-streams,

said sub-streams are created by decomposing an input datastream of a plurality of input datastreams into said sub-streams, wherein

said decomposing comprises placing a portion of the input datastream into one of a plurality of queues,

forming the portion of the input datastream using one or more payload data units (PDUs) each comprising a predetermined amount of data,

forming each PDU by selecting the predetermined amount of data from the input datastream,

appending to ~~**associating with**~~ each PDU a source identifier identifying the source of the input datastream, and

each queue of the plurality of queues corresponds to a corresponding channel of a plurality of channels,

each of said sub-streams is transported over said network on the corresponding channels, wherein

said transporting comprises forming a data frame comprising one or more PDUs and the **appended** ~~**associated**~~ source identifier[[s]] for each PDU and

transmitting the data frame over the corresponding channel, and

a transmission rate of said input datastream is greater than a maximum transmission rate of any one of said channels.

31. (Original) The apparatus of claim 30, wherein each of said channels is an optical channel.

32. (Previously Presented) The apparatus of claim 31, wherein each of said optical channels corresponds to a wavelength.

33. (Previously Presented) The apparatus of claim 30, wherein said each one of said sub-streams has a transmission rate that is equal to or less than a maximum transmission rate of said corresponding one of said channels.

34. (Previously Presented) The apparatus of claim 30, further comprising a second sub-stream management device, comprising

an input configured to receive said input datastream, and

a plurality of outputs, wherein

each of said outputs is configured to output one of said sub-streams; and

an underlying network infrastructure, communicatively coupled to said first and said second sub-stream management devices, and comprising said channels.

35. (Previously Presented) The apparatus of claim 34, further comprising a first protocol processor, coupled to said input;

a second protocol processor, coupled to said output; and

wherein,

the first and second protocol processors each comprise a protocol stack.

36. (Previously Presented) The method of Claim 1 wherein selecting the selected one of a plurality of channels comprises:

using a simple round-robin technique to choose an available one of the plurality of channels.

37. (Previously Presented) The apparatus of Claim 24 wherein selecting the selected one of the plurality of outputs comprises:

using a simple round-robin technique to choose an available one of the plurality of outputs.